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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,023	04/20/2005	Kazuya Maekawa	APA-0220	6143
74384	7590	01/31/2011		
Cheng Law Group, PLLC 1100 17th Street, N.W. Suite 503 Washington, DC 20036			EXAMINER DEXTER, CLARK F	
			ART UNIT 3724	PAPER NUMBER
			MAIL DATE 01/31/2011	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/532,023	<b>Applicant(s)</b> MAEKAWA ET AL.	
	<b>Examiner</b> Clark F. Dexter	<b>Art Unit</b> 3724	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-12 is/are pending in the application.
- 4a) Of the above claim(s) 3,4,6,7,11 and 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,5 and 8-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 May 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. The amendment filed on July 2, 2010 has been entered.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 5 and 8-10 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Wakayama et al., pub. No. 2004/0154456 (hereafter Wakayama '456).

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Wakayama '456 discloses a device on which almost every step of the claimed method is performed (except that which is grayed-out and struck-through) including:

forming at least one scribe line (e.g., L1-L3, Fig. 21) in a first direction by a scribe means (e.g., including 78) to generate a high-penetration vertical crack in the first direction in the brittle material substrate, and

forming at least one scribe line (e.g., L4-L6, Fig. 21) in a second direction by said scribe means to generate a high-penetration vertical crack in the second direction in the brittle material substrate,

wherein said at least one scribe line in the second direction intersects with said at least one scribe line of the first direction,

wherein the formation of the intersection between the scribe line in the second direction and the scribe line of the first direction occurs without the scribe means being pressed against an existing scribe line in the brittle material substrate (e.g., as described in paragraphs 0021 and 0022, wherein it is described that the cutter head is caused to jump up when crossing existing scribing lines), and

wherein, in the formation of at least one scribe line in a second direction, the scribe means presses against the brittle material substrate at a scribe start position and a scribe stop position ~~which are set at a distance of 0.5 to 0.7 mm from the scribe line of the first direction~~;

[claim 5] wherein the scribe means generates the high-penetration vertical crack by applying impacts of a short period to the point on the surface of the brittle material substrate (e.g., the impact(s) when the scribe means lands after the jump);

[claim 8] wherein the scribe means presses against the brittle material substrate at the scribe start position or the scribe stop position at a location which is within an advance distance of the vertical crack and which is distant from the existing scribe line;

[claim 9 (from 8)] wherein the scribe means does not press against the existing scribe line in the brittle material substrate in a vicinity around the existing scribe line.

Wakayama '456 lacks an explicit disclosure of the specific distance as follows:

[from claim 1] which are set at a distance of 0.5 to 0.7 mm from the scribe line of the first direction;

[claim 10 (from 9)] wherein the vicinity around the existing scribe line comprises a distance of 0.5 to 0.7 mm on either side of the existing scribe line.

However, because the distance is not recited in proportion to any other features of the invention, the recited distance will be met if the claimed invention is made to the appropriate scale. The Examiner takes Official notice that it is old and well known in the art to make such inventions of varying scales to perform various scribing operations on varying sizes of workpieces. Therefore, it would have been obvious to one having ordinary skill in the art to make a scribing device that meets the recited distance for at least the reason described above.

### ***Response to Arguments***

4. Applicant's arguments filed July 2, 2010 have been fully considered but they are not persuasive.

First, it is noted that in the third paragraph on page 6 and in the paragraph bridging pages 6-7 of the subject response, applicant emphasizes the phrase "crosses an existing scribe line." It is respectfully pointed out that this phrase cannot be considered to differentiate the prior art and the present invention since both deal with scribing operations wherein a new scribe line is formed when the scribing head crosses an existing scribe line.

Next, in the paragraph bridging pages 6-7 of the subject response, applicant reasons that:

*The bounce occurs because the scribing head falls down into the crevice of the existing scribe line and then bounces when it hits the far wall of the crevice (see Figure 13 of Wakayama et al.). Thus, the scribing head is not raised when crossing an existing scribe line as in the present invention.*

It is respectfully submitted that no evidence could be found in Wakayama for applicant's explanation that the scribing head falls down into the crevice of the existing scribe line. Applicant directs the Examiner's attention to Figure 13. However, Figure 13 does not show a crevice. Figure 13 shows reaction forces with the glass as the wheel, i.e., cutter wheel tip 83, is advanced in direction "S" in one embodiment, and reaction forces as the wheel, i.e., cutter wheel tip 95, is advanced in direction "T" in another embodiment. It is acknowledged that while using the embodiment that includes wheel 95, no jump occurs. However, when using the embodiment that includes wheel 83 or the other prior art embodiments including that shown in Figure 21, a jump clearly occurs.

Further, contrary to applicant's arguments, it is clear based on the teachings of the disclosure, particularly Figure 21, that the scribing wheel jumps prior to crossing the

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existing scribe line and lands after crossing the existing scribe line. As described in paragraph 0013 of Wakayama et al.:

*“this scribing force is cancelled when the cutter wheel tip crosses and passes existing scribe lines, by latent internal stresses on both sides of these scribe lines.”*

Regarding applicant's arguments in the second paragraph on page 7 of the subject response, the Examiner respectfully disagrees with applicant's analysis. While bounces may occur unexpectedly, Wakayama et al. clearly teaches that such bounces occur during the crossing of an existing scribe line, particularly in the prior art devices disclosed therein.

In the third paragraph on page 7 of the subject response, applicant argues that in Wakayama et al., the bouncing/jumping is viewed as problematic and Wakayama et al. discusses how to solve such a problem. However, the Examiner's position is not that Wakayama et al. addresses the same problem as applicant. Rather, the Examiner's position is that Wakayama et al. teaches and/or suggests a method in which every step of the claimed invention is performed.

Thus, for at least the reasons described above, it is respectfully submitted that the prior art rejection must be maintained.

### ***Conclusion***

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clark F. Dexter whose telephone number is (571)272-4505. The examiner can normally be reached on Monday, Tuesday, Thursday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer D. Ashley can be reached on 571-272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/Clark F. Dexter/  
Primary Examiner, Art Unit 3724**

cfd  
January 27, 2011